

Summary

Brazil has a large and diversified economy that offers US companies many opportunities to export their goods and services. As Brazil's largest single trading partner, the US enjoys a strong reputation in a variety of sectors. This report is one of a series that is published by the US Commercial Service's team of sector experts throughout the year.

If you do not see an opportunity for your product or service here, please check out our other reports and also consider contacting us directly to find out if we can help you export to Brazil.

Overview

Brazil is a large importer of metallurgical coal for the steel industry. However, coal mining and coal-generated electricity have never been large activities in Brazil. There exists the possibility that this will change with time due to the fact that Brazil's total coal deposits are estimated to be 32 billion metric tons, or 3.5% of the world's total while Brazil's output of nearly 6 million metric tons per year represents only 0.1% of the world total. The main problem is that the vast majority of coal thus far discovered in Brazil is of a generally low quality.



Domestic Production:

For many years, Brazilian coal production has been relatively stagnant with 2000 representing the largest annual output on record. After a slight decrease in output there has begun an upward trend since 2003. As planned new coal-fired power plants come on line, this trend will likely continue for many years to come.

The Brazilian coal production is located exclusively in the southern states of Rio Grande do Sul (RS), Santa Catarina (SC), and Paraná (PR). The region that concentrates the largest number of coalmines is centered on the city of Criciúma, in the state of Santa Catarina. The total domestic output has been as follows, in thousands of metric tons, of processed coal.

	Steam Coal by State				Coal Fines	
Year	PR	SC	RS	Subtotal	SC	TOTAL
1991	152	1,887	2,792	4,832	79	4,910
2000	86	3,175	3,425	6,686	109	6,795
2003	72	2,095	2,476	4,643	159	4,803
2004	78	2,347	2,652	5,077	294	5,370
2005	78	2,448	3,216	5,742	306	6,048

Source: Association of Coal Producers of the State of Santa Catarina / SIECESC

The output in terms of ROM "Run Of Mine" has been as follows, in thousands of metric tons:

	PR	SC	RS	TOTAL
1991	269	6,684	4,463	10,417
2000	143	6,639	4,733	11,515
2003	297	5,329	3,464	9,090
2004	347	7,343	3,688	11,378
2005	339	7,809	4,250	12,398

Source: Association of Coal Producers of the State of Santa Catarina / SIECESC

Brazil produces only steam coal. All of its consumption of metallurgical coal is imported. During 2005, the main end-user sectors that purchased and consumed the domestic coal were as follows:

- ➔ Electricity generation: 84% of the total production.
- ➔ Petrochemicals: 4%.
- ➔ Pulp and Paper 4%.
- ➔ Food industry: 1.8%
- ➔ Ceramics: 1.8%.
- ➔ Coke: 1.2%.

Total coal mine workers in Brazil at the end of 2005 was:

- ➔ 335 in the state of Paraná.
- ➔ 1,000 in Rio Grande do Sul.
- ➔ 4,040 in Santa Catarina.

Total Brazilian coal reserves are 32 billion metric tons, 87% located in the state of RS, 10% in the state of SC, and the remaining 3% in the state of Paraná. The coal produced in Santa Catarina is of a higher quality than that of Rio Grande do Sul. During 2004, while Rio Grande do Sul produced 52% of the total Brazilian output, it had a share of only 29% of total sales in terms of value. Santa Catarina produced 46% of the quantity, but had 69% of the total sales value.

Mining Companies:

There are 15 coal mining companies operating in Brazil and all of them are relatively small if compared to the U.S. producers. The output by mining company in 2005 was as follows in thousands of metric tons

Company	ROM	Processed Coal
Cambuí	339	78
Copelmi	2,029	1,045
CRM	2,220	2,172
Metropolitana	1,059	413
Criciuma	1,375	506
Cocalit	164	53
Comin	499	58
S. Domingos	464	52
Catarinense	1,090	281
Rio Deserto	932	376
Cooperminas	1,146	227
Belluno	791	277
Gabriella	134	12
Siderópolis	N/A	155
Minageo	N/A	38
TOTAL	12,400	5,742

Source: Association of Coal Producers of the State of Santa Catarina / SIECESC

Overview of Main Coal Mining Companies

Companhia Riograndense de Mineração (CRM)

The largest company, CRM, is owned by the state of Rio Grande do Sul. It has two mines, one in Candiota which accounts for nearly 95% of its output, and a small mine in Bela Vista. It supplies coal to the Candiota I and II thermal power plants, located only 2.5 km away by conveyor belt. It is scheduled to increase its output to 4 million metric tons per year by 2010, to supply coal to the Candiota III power plant that is going to be built over the next years. An investment of US\$20 million is planned for this expansion. Candiota is the largest Brazilian deposit of coal, with more than one billion metric tons, located 400 km south of the state capital, Porto Alegre.

All of CRM's operations are open pit. It used to operate two underground mines called Mina do Leão I and Mina do Leão II. M.L. I is 150 meters underground and was closed down in 2002 as it was not considered cost-competitive. CRM invested US\$70 million in M.L. II in the 1980's, located just 6 km from M.Leão I, but it was also closed down and has not been in operation for many years. In 2002 this second mine was leased to the company Carbonifera Criciuma, for 30 years. It will be re-opened by 2009. CRM has approximately 500 employees. It's website is www.crm.gov.br.

COPELMI Mineração Ltda

COPELMI Mineração Ltda. is the second largest coal mining company in Brazil. It is also located in the state of Rio Grande do Sul. It has three coalmines and all of them are open pit. Its mines are: "Recreio," (largest), "Faxinal" and "Butiá Leste". COPELMI had an underground mine called "Charqueadas" that was closed down in 1990.

COPELMI is the largest Brazilian private coal producer, responsible for 18% of total Brazilian coal output, or approximately one million metric tons of processed coal/year. The company was established in 1883.

It sells coal to thermal power plants, and also a number of other sectors including the petrochemical, paper and pulp, food, and cement industries.

Copelmi has two projects to open up new mines as follows:

- ➔ The Seival mine, near the Uruguay border, will supply coal to a thermal plant of 500MW, that is expected to be built within 5 to 7 years.
- ➔ The Guaíba mine, in the municipality of Eldorado do Sul (RS), with a projected capacity of 3 million metric tons ROM/year. However, a time schedule for this project has not yet been established.

Copelmi has approximately 520 employees and its website is www.copelmi.com.br.

Most of the other Brazilian coal mining companies are located in the region around the municipality of Criciúma, in the state of SC, and operate underground mines.

Carbonifera Criciúma

The largest of these companies is Carbonifera Criciúma. All of its operations are underground. Its mine, Verdinho, is approximately 150 meters underground and has a capacity of 2.8 million metric tons / year of ROM. It is currently building a second mine, Rio Queimado, which will also be underground, located in a deposit of 100 million metric tons *in situ*.

It has another project, for the long term, to build another underground mine in the municipality of Treviso (SC) to supply 2.3 million metric tons / year of coal to a 440 MW thermal plant (to be built) called USITESC. It has 670 employees, and its website is www.carboniferacriciúma.com.br.

Carbonifera Metropolitana

The fourth largest Brazilian coal mining company is Carbonifera Metropolitana, located in Treviso, near Criciúma. It has two mines, called Esperança and Fontanella, and all of its operations are underground. It has 720 employees. It has a very detailed website, although only in the Portuguese language, at www.carboniferametropolitana.com.br.

Carbonifera Rio Deserto

Brazil's fifth largest coal mine is Indústria Carbonifera Rio Deserto. It belongs to a large group with several other companies working in the sectors of civil construction, transportation, agriculture and reforestation, and raw materials. All of its output is underground, in two mines called Trevo and Barro Branco. It has 550 employees and its website is www.riodeserto.com.br.

Carbonifera Catarinense

Carbonifera Catarinense has two underground mines, called Bonito I and Novo Horizonte. All of its production is underground. Its website is www.carboniferacatarinense.com.br.

Carbonifera Belluno

Carbonifera Belluno belongs to a large group of companies, called Salvaro. Besides coal, it owns several radio stations, and a transportation and real state company. It took over the coalmines that belonged to the Brazilian steel manufacturer CSN in 1990s. It has two underground mines, called Cantão and Morozini Norte, and one open pit, called Marion. Approximately 85% of its output is underground. Its website is www.cbelluno.com.br.

Cooperminas

Cooperminas (Cooperativa de Extração Mineral dos Trabalhadores de Criciúma) is actually a cooperative of miners, which took over a bankrupt coal mine in the 1980s. All of its output is underground. It has no website, and has approximately 500 employees.

Detailed contact information for all these companies located in the state of Santa Catarina can be found in the website of their association SIECESC, which is www.siecesc.com.br.

Energy Generation

The basic factor hindering faster development of the coal sector in Brazil is that the local coal has low calorific values and high contents of ash and sulfur. The Brazilian energy matrix of primary sources is as follows:

Energy primary sources, 2004:

- ➔ Oil: 39.1%
- ➔ Hydro: 14.4%
- ➔ Sugar cane: 13.5%
- ➔ Wood and charcoal: 13.2%
- ➔ Natural gas: 8.9%
- ➔ Coal: 6.7%
- ➔ Nuclear: 1.5%
- ➔ Others: 2.7%

The Brazilian matrix for sources of electricity is as follows, data for 2005:

- ➔ Hydro: 70.5%
- ➔ Gas: 10.0%
- ➔ Oil: 4.8%
- ➔ Biomass: 3.1%
- ➔ Nuclear: 2.0%
- ➔ Coal: 1.4%
- ➔ Imports: 8.3%
- ➔ Wind: 0.03%

Brazilian coal-fueled power plants are also located in the southern states, near the coalmines. They have a combined installed capacity of 1414 MW, distributed as follows:

- ➔ The largest thermal electricity complex in Latin America is called Jorge Lacerda, and it is located in the municipality of Capivari de Baixo, in state of Santa Catarina, with three plants. Their installed capacity is 232 MW, 261 MW and 363 MW (total of 857 MW). They belong to the company Tractebel Energia.
- ➔ The state of Rio Grande do Sul has four plants. They are called Candiota I (126 MW), Candiota II (320 MW) and São Jerônimo (20 MW), all belonging to CGTEE Companhia de Geração Térmica de Energia Elétrica, a subsidiary of the federal state-owned Eletrobras; and the Charqueadas Plant (72 MW) which also belongs to Tractebel Energia. Candiota I and II are also known as Presidente Medici A and B. Tractebel Energia is a subsidiary of Suez Energy International, and has a share of 6,970 MW or 8% of the total Brazilian electricity generation.
- ➔ The state of Paraná has the Figueira plant (20 MW), which belongs to the company COPEL.

After 20 years of a completely stagnant market, without any new coal power project in Brazil, two new projects were approved in December 2005:

- ➔ CRM contracted the construction of another power plant, called Candiota III (also known as Presidente Medici – phase C). It will start up in 2010, and it has already sold 294 MW of its output in an official electricity auction. Its capacity will be 350 MW, and the total investment is estimated to be US\$285 million in the plant, plus US\$20 million in the mine to expand its output. The investors are the above-mentioned state-owned CGTEE and CRM. The Chinese company Citic Construction will supply the plant.
- ➔ Jacuí I, will have a capacity of 350 MW, and sold 254 MW in the December-2005 power auction, for delivery in 2009. The coal for this plant will be supplied by CRM's Mina do Leão II mine, to be operated under concession by Carbonifera Criciuma. This project was originally prepared by Tractebel Energia, who sold its 33% stake in April 2005 to Elétrica Jacuí (Eleja), which is controlled by Carbonifera Criciuma. It will be located in the municipality of Charqueadas in the state of RS. It will be built by the Brazilian contractor Andrade Gutierrez. The German companies Siemens and BBP Environment, France's Alstom Power and U.S.-based MDU Resources are the other members of the Jacuí consortium.

There are two projects for coal fired power plants that are likely to move off the drawing board in 2006 or 2007, subject to the sale of power purchase agreements via auctions scheduled to be held before the end of this year. They are:

- ➔ Seival, a 500 MW project of Copelmi, MDU Resources and the Brazilian contractor Andrade Gutierrez. The German company Steag, which was a long- term partner in this project, sold its part in 2005. It will be located in the municipality of Candiota. The plan of the project owners is to sell its energy in the auction of September 2006, start construction in 2007 and start operations in 2009.
- ➔ CT Sul, a 650 MW project in the municipality of Cachoeira do Sul, state of RS. This plant is being negotiated with a group of European banks, and the Chinese company CMEC (China National Machinery & Equipment Import & Export), which is acting as an investor and equipment supplier. CMEC has hired the Brazilian contractor Camargo Correa to build the plant. The Brazilian project owner is CELETRO (Cooperativa de Eletrificação Centro Jacuí Ltda). It is scheduled to take part in the next round of official electricity auctions, and plans to start building by early 2007 and to start operations by 2009. The coal will be supplied by CRM.

There are also a number of other projects that are still in the very early stages of feasibility studies:

- ➔ Sepetiba, 1377 MW, to be built by the independent power producer Itaguaí Energia, in the municipality of Itaguaí, state of Rio de Janeiro.
- ➔ The government of the state of Rio de Janeiro plans to find a partner for a coal-fired power plant up to 1000 MW.
- ➔ CVRD, the largest Brazilian mining company, has been researching the possibility of building a coal power plant for its own consumption, located directly at its Brazilian mines. CVRD does not produce coal in Brazil, and its plan is to use imported coal. It started recently producing coal in Mozambique; it has a 25% stake in a coalmine in China (Yongcheng Coal & Energy Co.) and is currently negotiating with Colombia and Venezuela for coalmine concessions within these two countries.

Importation

Brazil is traditionally a large importer of metallurgical coal for its steel mills, as there is no domestic production of this mineral. Imports over the past six years have remained quite stable increasing slightly from 16.5 million to 17.3 million metric tons. However, the total value of these imports has increased by 160% due to the price trend of metallurgical coal in the international market.

The Brazilian importers of coal are the local steel manufacturing companies, and iron ore pelletizing companies. A detailed market report on the Brazilian steel sector, dating April 2005, is available at: http://buyusainfo.net/docs/x_594.pdf. The iron ore pelletizing companies are subsidiaries of the CVRD group, and all of them are located in Vitoria, Espirito Santo. The website of the CVRD group is www.cvr.com.br.

The official import statistics are as following, all data shown in metric tons, US\$ FOB prices:

		HS 2701.1100 Anthracite Coal, not agglomerated	HS 2701.1900 Other Coal, Whether or not pulverized, but not agglomerated	HS 2704.0010 Coke of Coal, of Lignite or of Peat	HS 2701.1200 Bituminous Coal	Total
2000	US\$	26,582,834	394,312,253	113,447,712	100,159,745	634,502,544
	Tons	945,853	11,279,780	1,572,919	2,648,457	16,447,009
2001	US\$	30,570,230	440,224,374	138,909,775	96,000,709	705,705,088
	Tons	999,385	11,557,054	1,618,115	2,234,856	16,409,410
2002	US\$	40,419,855	474,824,017	162,225,909	117,423,844	794,893,625
	Tons	1,323,419	9,263,650	2,089,265	2,425,129	15,101,463
2003	US\$	42,684,555	499,496,424	304,637,371	102,693,991	949,512,341
	Tons	1,399,411	11,118,818	2,639,485	2,313,527	17,471,241
2004	US\$	64,469,431	656,746,257	534,647,656	167,848,168	1,423,711,512
	Tons	1,565,289	12,064,236	2,045,538	2,788,985	18,464,048
2005	US\$	91,496,165	1,014,904,199	342,626,814	198,476,577	1,647,503,765
	Tons	1,561,473	11,765,328	1,560,182	2,423,600	17,310,583

(HS is the Harmonized System Code Number)

Source for all import statistics in this report: official statistics of the Brazilian import / export authorities, Brazilian Ministry of Industry, Trade and Development.

The next four tables highlight the most important suppliers of each type of coal to the Brazilian market, according to the official statistics:

Main Exporters of Anthracite coal to Brazil, HS code number 2701.1100. All data are in US\$ FOB and in US\$1000.								
	2000		2003		2004		2005	
	US\$ 1000	TONS	US\$ 1000	TONS	US\$ 1000	TONS	US\$ 1000	TONS
CHINA	14,118	579,664	24,414	883,444	17,050	504,176	17,858	358,047
USA	2,016	43,809	695	2,362	2,368	31,894	969	2,180
SOUTH AFRICA	7,607	243,636	15,120	465,969	23,729	593,662	27,853	445,868
SWITZERLAND	2,809	78,582	1,686	25,155	3,253	90,981	8,962	159,916
RUSSIA	---	---	----	----	9,418	157,120	24,676	415,229
VIETNAM	---	----	769	22,481	3,849	100,094	8,737	131,473
UKRAINE	---	---	---	---	4,312	77,360	1,933	37,170

Main exporters to Brazil of "Other coals, whether or not pulverized but not agglomerated," HS code number 2701.1900. All data are in US\$ FOB and in US\$1000.								
	2000		2003		2004		2005	
	US\$ 1000	TONS	US\$ 1000	TONS	US\$ 1000	TONS	US\$ 1000	TONS
AUSTRALIA	136,277	4,124,466	158,161	3,753,942	241,366	5,368,886	435,162	5,184,015
USA	149,555	3,689,346	145,375	2,697,383	268,878	3,589,528	387,061	4,004,151
CANADA	41,459	1,209,733	76,894	1,714,156	68,694	1,477,296	116,663	1,425,504
CHINA	2,595	65,415	51,273	1,130,870	6,130	132,612	---	---
VENEZUELA	23,564	766,394	9,127	263,487	16,196	372,138	22,723	371,774
INDONESIA	13,380	440,914	6,618	206,495	18,158	438,047	15,478	220,619
SWITZERLAND	3,660	136,445	16,354	429,152	2,546	76,991	---	---
SOUTH AFRICA	14,037	588,373	6,802	220,079	4,113	119,378	2,021	40,628
NEW ZEALAND	---	---	5,397	122,826	5,896	123,986	8,599	114,181
POLAND	7,467	213,653	---	---	---	---	---	---

Main exporters to Brazil of "Coke of coal, of lignite or of peat" HS code number 2704.0010. All data are in US\$ FOB and in US\$1000.								
	2000		2003		2004		2005	
	US\$ 1000	TONS	US\$ 1000	TONS	US\$ 1000	TONS	US\$ 1000	TONS
CHINA	58,009	889,948	213,525	1,684,791	338,914	1,045,638	163,573	737,470
JAPAN	29,820	380,912	37,793	438,141	79,215	476,133	112,606	512,589
SPAIN	8,812	110,152	21,676	198,714	28,088	166,485	41,421	186,602
HONG KONG	----	-----	5,348	44,709	35,488	98,661	-----	-----
SWITZERLAND	2,337	43,349	6,453	46,587	17,687	61,944	967	6,347
INDIA	-----	-----	-----	-----	8,227	20,901	14,720	61,226
COLOMBIA	-----	-----	351	3,064	12,051	59,451	5,085	26,967
HOLLAND	-----	-----	-----	-----	8,872	42,999	-----	-----
USA	-----	-----	9,012	94,660	876	16,207	6	14
UNITED KINGDOM	9,696	79,817	-----	-----	-----	-----	-----	----

Main exporters to Brazil of Bituminous coal, HS code number 2701.1200. All data are in US\$ FOB and in US\$1000.								
	2000		2003		2004		2005	
	US\$ 1000	TONS	US\$ 1000	TONS	US\$ 1000	TONS	US\$ 1000	TONS
AUSTRALIA	37,741	1,016,560	38,144	871,719	42,563	931,229	78,375	838,542
USA	34,267	782,459	28,735	489,870	79,186	886,651	43,993	523,651
SWITZERLAND	8,712	286,061	1,940	37,297	10,450	239,466	34,554	442,976
CANADA	4,369	112,712	2,523	53,443	14,623	317,426	19,127	331,990
SOUTH AFRICA	8,599	264,283	5,058	173,212	3,495	81,565	2,590	40,221
CHINA	---	---	14,811	358,124	---	---	2,350	26,110
VENEZUELA	863	24,879	4,740	137,080	9,854	182,638	2,809	51,535
COLOMBIA	---	---	3,497	80,435	5,338	105,480	8,380	135,166

Equipment Suppliers in Brazil

Virtually all of the large multinational suppliers of equipment for the energy and mining sectors have subsidiaries in Brazil, where they manufacture their products with a high content of locally made components. They even export many products from Brazil. They do, however, import a large number of components to assemble into their products. For this reason, it is very difficult to export turnkey equipment to Brazil as opposed to components. The best prospects for exports are components for assembly in Brazil.

U.S. companies that intend to export to Brazil need to provide a technological edge or a clearly superior product, if they want to stay competitive with local manufacturers. Generic components and turnkey equipment are made in the country and can be normally purchased locally at a cheaper price than imported equipment (although not necessarily with the same quality).

Among the local manufacturers for the energy sector, are subsidiaries of ABB, Siemens Voith, Alstom, Toshiba, General Electric, Landis+Gyr, Phelps Dodge and Alcoa. There are hundreds of Brazilian small and medium-size companies that specialize in supplying components to these companies.

Among the local manufacturers of mining equipment are subsidiaries of Caterpillar, Fiat, New Holland, Volvo, Cummins, Metso, Sandvik, Atlas Copco, Flygt, Komatsu, Flender, Rexnord, Falk, Vulkan, Goodyear, Krupp and Svedala.

Trade Shows and Key Contacts

The most important mining event in Brazil is the "Exposibram" trade fair and technical seminars sponsored by the Brazilian Mining Institute / IBRAM. The next edition of this event will take place from September 25 to 28, 2007. It is held every two years in Belo Horizonte, and it is the best opportunity to meet all kinds of companies from this sector in Brazil. Several other meetings in the mining sector are also organized by IBRAM, and are co-sponsored by the most important companies of the mining sector in Brazil. IBRAM is the leading association of mining companies in Brazil, and its website is www.ibram.org.br.

Other Key Institutions in Brazil in this Sector

-ABIMAQ - Associação Brasileira das Industrias de Máquinas e Equipamentos (Brazilian Association of Machinery Manufacturers): www.abimaq.org.br

- ABM - Associação Brasileira de Metalurgia e Materiais
(Brazilian Metallurgy and Materials Association): www.abmbrasil.com.br

- CPRM - Companhia de Pesquisa e Recursos Minerais
(Brazilian Geological Survey): www.cprm.gov.br

- DNPM - Departamento Nacional de Produção Mineral
(Brazilian Mineral Production Department): www.dnpm.gov.br

For More Information:

The U.S. Commercial Service in Belo Horizonte / Brazil can be contacted via e-mail at: Mauricio.Vasconcelos@mail.doc.gov Phone: 55/31 3213-1573; Fax: 55/31 3213-1575 or visit our website: www.buyusa.gov/your_office.

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